

IN THE CLAIMS

Please amend the following claims:

30. A golf ball comprising:

(a) a core having a core compression; and

(b) a finished golf ball cover formed by casting having a Shore D hardness of 50D to 65D, wherein said cover is produced through a mixture of

(1) a diisocyanate wherein said diisocyanate is selected from a group consisting of toluene diisocyanate, 4,4'-diphenylmethane diisocyanate, Isophorone diisocyanate and mixtures thereof;

(2) a polyol having a molecular weight of about 650-3000 wherein said polyol is an ether glycol; and,

(3) a curing agent consisting of:

(A) a first diamine dimethylthio-2,4-toluenediamine; and,

(B) a second diamine diethyl-2,4-toluenediamine

wherein said mixture is poured into a pair of mating mold halves, said mixture forms a semi-gelled polyurethane, wherein said core is inserted into said semi-gelled polyurethane, the mating mold halves are joined to form a golf ball, when the golf ball is removed the golf ball is allowed to cure at room temperature to preserve the core compression.

40. A golf ball comprising:

a core having a core compression, comprising a center and thread layer wherein said core has a diameter from about 1.48" to about 1.62"; and,

F-2 a polyurethane cover having a Shore D hardness of 50D to 65D formed from a mixture of reactants poured into at least one pair of mating mold halves, wherein the mixture of reactants produce a semi-gelled polyurethane, wherein the core is introduced into at least one of the pair of mating mold halves containing the semi-gelled polyurethane, which after waiting approximately four minutes forms a golf ball that cures at room temperature to preserve the core compression, wherein the reactants comprise:

(a) (1) a diisocyanate selected from the group consisting of toluene diisocyanate, 4,4'-diphenylmethane diisocyanate, Isophorone diisocyanate and mixtures thereof, and

(2) [a] an ether glycol polyol having a molecular weight of about 650-3000; and,

(b) a curing agent comprising:

(1) dimethylthio-2,4-toluenediamine; and,

(2) diethyl-2,4-toluenediamine.

43. A golf ball comprising:

a center comprising 100 PPHR cis polybutadiene rubber, 20 PPHR zinc acrylate salt, 24.5 PPHR barium sulfate, 6 PPHR zinc oxide, 3 PPHR zinc stearate and 2.1 PPHR 1,1-di-(tert-butylperoxy)-3,3,5-trimethyl cyclohexane;

a thread layer winding comprised of polyisoprene rubber, wherein said thread layer forms a core having a core compression; and

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a cast golf ball cover formed from reactants poured into mating mold halves, the cast golf ball cover when cured having a Shore D hardness of 50D to 65D wherein the reactants comprise 100 PPHR of toluene diisocyanate and polyoxytetramethylene ether glycol that forms a prepolymer with an NCO content of about 5.5% to 8.0% by weight of said prepolymer, said prepolymer is further reacted with 13.2 PPHR of a curative comprising diethyl-2,4-toluenediamine and dimethylthio-2,4-toluenediamine at a 50:50 weight ratio and 2.3 PPHR pigment when the reactants are mixed and poured into a pair of mating mold halves, the reactants form a semi-gelled polyurethane in one of the pair of mold halves, wherein the core is inserted into the semi-gelled polyurethane the pair of mating mold halves are joined and engulf the core in the semi-gelled polyurethane;

when the mold halves are opened a golf ball is removed and allowed to cure at room temperature to preserve the core compression.

44. A golf ball comprising:

(a) a core having a core compression; and

(b) a cover having a Shore D hardness of 50D to 65D, said cover being a polyurethane formed from a mixture of reactants comprising:

(1) a diisocyanate selected from the group consisting of toluene diisocyanate, 4,4'-diphenylmethane diisocyanate, Isophorone diisocyanate and mixtures thereof;

(2) a polyol having ether groups, wherein said polyol has a molecular weight of about 650-3000; and,

(3) a curing agent comprising:

F4 (A) a first diamine substituted benzene ring wherein said first diamine substituted benzene ring has amine groups which are sterically or electronically hindered; and,

(B) a second diamine substituted benzene ring having no interference with its amine group, wherein said first diamine substituted benzene ring has greater hindrance of its amine group than said second diamine substituted benzene ring's amine group, wherein the mixture of reactants is poured into a pair of mating mold halves, the reactants form a semi-gelled polyurethane into which the core is inserted, the mold halves are mated engulfing the core in the semi-gelled polyurethane, when the mold halves are separated the golf ball is complete and is capable of being cured at room temperature to preserve the core compression without reduced properties.

48. A golf ball comprising:

a core having a core compression;

a cover comprising a blend of:

(a) a polyurethane prepolymer comprising:

(1) a diisocyanate having a benzene ring group;

(2) a polyol;

(b) a curing agent comprising:

(1) a benzene ring having a hindered diamine; and,

(2) a benzene ring having an unhindered diamine;

wherein the polyurethane prepolymer and curing agent are post-cured at a post-cure temperature of about 72° F to about 102°F, and a post-cure time for the golf ball is between about 8 to 16 hours wherein the core compression is preserved during the post-cure.